

Work Order ID 137183

Thursday, September 24, 2015 2:11:57 PM

137183

Page 1

Rush

Item ID: D4859-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bushing
 Start Date: 9/23/15 Start Qty: 30.00 ***30*** Cust Item ID:
 Required Date: 9/23/15 Req'd Qty: 30.00 ***30*** Customer:
 Reference:

Approvals: Process Plan: *(Signature)* Date: 159-24 Tooling: _____ Date: _____
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D4859	A

100		0.00							
-----	--	------	--	--	--	--	--	--	--

100 Hardinge CNC LATHE SMALL DAS 14

Hardinge 34 0

Hardinge CNC Lathe Small 9-89 15/09/25

Memo

Machine as per folio FB191

FOLIO REV: N/A

DWG REV: A

Deburr

110		0.00							
-----	--	------	--	--	--	--	--	--	--

110 QC2- Inspect parts off machine FAI/FAIB DAS 14

QC 34 0

Quality Control 9-89 15/09/25

Memo

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 137183

Thursday, September 24, 2015 2:11:57 PM

137183

Page 2

Item ID: D4859-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bushing
Start Date: 9/23/15 Start Qty: 30.00 ***30*** Cust Item ID:
Required Date: 9/23/15 Req'd Qty: 30.00 ***30*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							
120						34	Ø		DAS 40 9-89
QC	Memo	0.00							
Quality Control									
130	Identify as per dwg & Stock Location: <u>st 132</u>	0.00							
130						34			DAS 27 9-89
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

SEP 28 2015

MCS SEP 28 2015

MCS SEP 28 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date ☐	☐	Manufacturing Process	☐	OTHER :			
Misidentified ☐	☐	Past Due	☐				

Picklist Print

Thursday, September 24, 2015 2:11:56 PM

Page 1

Work Order ID: 137183

137183

Parent Item: D4859-1

D4859-1

Parent Item Name: Bushing

Start Date: 9/23/15

Required Date: 9/23/15

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP REV:A 13.05.27 AS PER DWG REV.A DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303R0.750		Purchased		No		100	f	90.7500	0.027	0.852633			

M303R0 750

303 Round Bar 0.750

Location

Loc Qty

Loc Code

MAT

90

~~Mat~~ m133038

36

m133053

54

MAT028

0.75

m132775

0.75

1.25

OK 15/09/25

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				

FIRST ARTICLE INSPECTION CHECKLIST

Rev	Date	Change	Revised by	Approved
A	14.08.27	New Issue	KJ	

DQA: _____ Date: _____

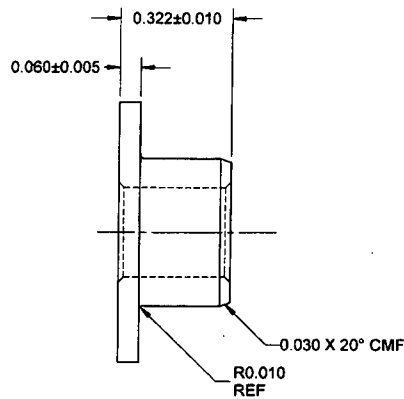


WORK ORDER NON-CONFORMANCE / UPDATE

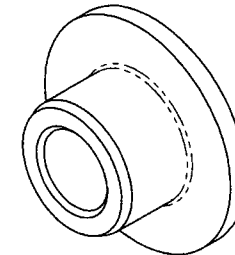
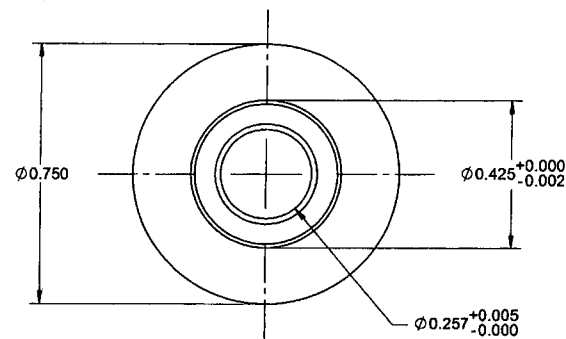
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



D4859-1 BUSHING



NOTES:

- 1) MATERIAL: AISI 303 SS ROUND BAR
PER ASTM A582
REF. DART SPEC M303R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.01 lbs

Handwritten: 15.9-24
137/83

RELEASED
R-2013-05-23

A		NEW ISSUE		AJS	13.05.08
REV.		DESCRIPTION		BY	DATE
DESIGN	AJS	DART AEROSPACE USA, INC. KENT, WA			
DRAWN	AJS				
CHECKED	<i>[Signature]</i>	DRAWING NO.	D4859	REV. A	
MFG. APPR.	<i>[Signature]</i>			SHEET 1 OF 1	
APPROVED	<i>[Signature]</i>	TITLE	BUSHING	SCALE	
DE APPR.	<i>[Signature]</i>			NTS	
DATE	13.05.08	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	Design	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐		☐		☐		☐
	☐		☐		☐						